FORESTRY FACTS

UW Extension

COLLEGE OF AGRICULTURAL & LIFE SCIENCES
UNIVERSITY OF WISCONSIN-MADISON

Department of Forest Ecology and Management • School of Natural Resources

No. 93 May 2001

Wood Use and Society

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INTRODUCTION

It is not uncommon for people to believe that they use little or no wood in their everyday lives. This is understandable since many products made from wood no longer resemble wood or are used in products not often associated with wood. We can all think of obvious wood examples such as lumber, wood panels, and paper products. These products are used in our building, packaging, and paper needs. Other wood products such as rayon fabric, food flavorings and thickeners, or cosmetic and paint additives are not obvious but all contain wood. The combination of all of these wood products fills an important role and adds to our demand for wood.

In addition to the non-obvious uses of wood, few people appreciate the volume of wood that we all consume every year. Even if one is aware of this volume, the shear magnitude of this number is difficult to comprehend. To intelligently discuss the current issues of forest management, forest sustainability, or forest conservation, we must first understanding how much we depend on wood in our everyday lives.

DEFINING THE TYPES OF WOOD

Before we can understand the amount of wood that we consume each year, we must first understand how this wood is used. Figure 1 identifies the major categories of wood consumption. Each of these categories is defined in detail below.

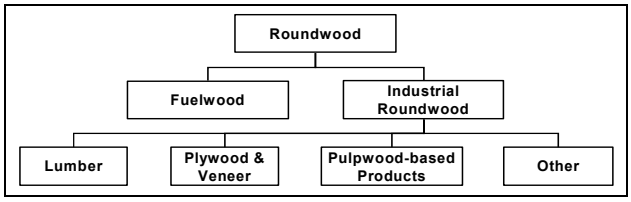

Figure 1: Wood Consumption Categories

Roundwood – Roundwood can be defined as the cubic volume of logs, bolts, and other round wood sections as they are cut from trees (Evans 1993). Roundwood is an all-inclusive term often used to describe all types of wood. Roundwood can be further broken down into more specific wood categories including *fuelwood* and *industrial roundwood*.

Fuelwood – Fuelwood is exactly what the word describes; wood used as fuel. The term fuelwood may also include wood used for charcoal production, which is ultimately used as fuel. Worldwide, fuelwood accounts for 55 percent of all roundwood consumption (FAO 1999).

Industrial Roundwood – Industrial roundwood is defined as all commercial roundwood products except fuelwood. Four general categories for these products would include *lumber*, *plywood & veneer*, *pulpwood-based products*, and *other*.

Lumber – A wood product manufactured from logs by sawing, resawing, and usually planing, with all four sides sawn (Evans 1993). Sawlogs are the basic raw material for lumber.

Plywood & Veneer – Includes products manufactured from wood veneers. Logs are either peeled or sliced to produce the veneer, then reconstituted into the desired product.

Pulpwood-based Products – Pulpwood-based products are derived from trees that are chipped or flaked. These chips or flakes can be reconstituted into solid wood products such as oriented strand board or pulped into wood fiber to produce fiber-based products such as paper and food additives.

Other – The other wood products category includes products such as cooperage logs, poles and piling, fence posts, hewn ties, round mine timbers, chemical

wood, shingle bolts, and other miscellaneous items (Howard 1999).

EXAMINING WOOD CONSUMPTION

Now that we understand the terminology, we can examine in more detail where and how wood is consumed. To report these consumption volumes, imagine the cubic foot, which is a simple cube that measures 12 inches on a side. It is important to have a measure that we can all picture in our minds. Below, we will consider wood consumption across the globe, across the United States, and across Wisconsin.

GLOBAL CONSUMPTION

The Food and Agriculture Organization within the United Nations tracks global consumption trends for wood. Consider the following consumption estimates (FAO 2001):

Global roundwood consumption for 1999 was 115.7 billion ft^3

- If this volume of wood were stacked end to end in cubic foot blocks, it could circle the earth's equator 880 times.
- Viewed another way, this volume of wood stacked end to end could stretch to the earth's moon and back more than 45 times.
- Globally, we consume 19.3 ft^3 of wood per person per year[1]. This value is a world average and is greater for developed countries and smaller for developing countries.

These examples of wood consumption truly demonstrate the astronomical volumes of wood consumed on a **yearly** basis. Opponents of wood use often suggest that substitutes could replace much of our wood consumption. In reality, however, such volumes would be difficult if not impossible to replace physically, economically, and environmentally.

Different parts of the world use wood differently. One common example is fuelwood. Consider developing vs. developed countries. Developing countries consume 90 percent of the world's fuelwood production while developed countries consume only 10 percent. In contrast, developed countries consume 70 percent of the world's industrial roundwood while developing countries consume only 30 percent (FAO 1999). These consumption trends are shown in Figure 2.

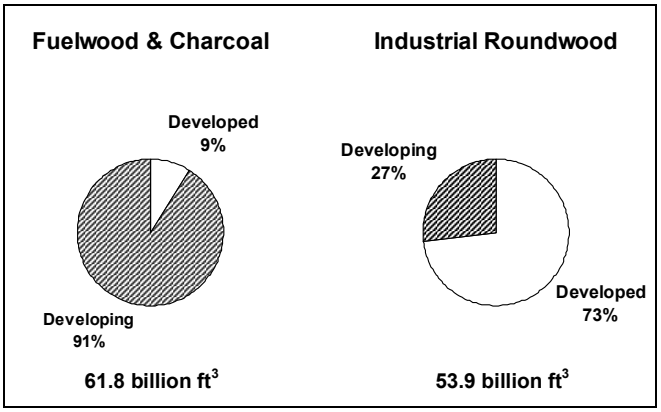

Figure 2: Global Roundwood Consumption, 1996 (Source: FAOSTAT Database)

Overall, growth in global wood consumption is expected to continue. As developing countries become more prosperous, their demand for wood increases. World growth rates for wood products range from 1.1 to 2.4 percent increase per year over the next ten years (FAO 1999).

UNITED STATES CONSUMPTION

As a developed nation, the United States consumes an enormous amount of wood. Some might argue that we consume more than our fair share. The United States imports and exports many types of wood products; however, we are a net importer. In other words, we use more wood than we produce domestically. In 1997, our net wood imports totaled 1.8 billion ft^3 (Howard 1999). The Forest Products Lab, USDA Forest Service, tracks national consumption trends for wood. Consider the following consumption estimates (Howard 1999):

Unites States' roundwood consumption for 1997 was 19.9 billion ft^3

- If this volume of wood were stacked end to end in cubic foot blocks, it could circle the earth's equator more than 151 times.
- Viewed another way, this volume of wood stacked end to end could stretch to the earth's moon and back nearly 8 times.

[1] Derived from 1999 world roundwood consumption estimates (FAO 2001) and 1999 world population estimates (U.S. Census Bureau 2000b).

As a developed nation, total roundwood consumption within the United States closely follows the patterns described in Figure 2. Figure 3 shows the relative importance of industrial roundwood over fuelwood. Industrial roundwood is further broken down into four major consumption categories.

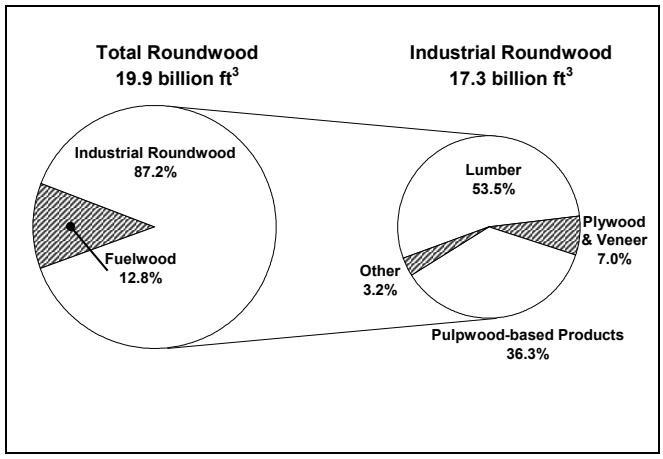

Figure 3: United States Roundwood Consumption (Source: Howard 1999)

From a global perspective, it is interesting to note the following points regarding wood consumption within the United States:

- Total roundwood consumption in the United States accounts for roughly 17 percent of global roundwood consumption.
- Total industrial roundwood consumption in the United States accounts for roughly 32 percent of global industrial roundwood consumption.
- In the United States, we consume **74.0 ft^3** of roundwood per person per year. This is over 3.5 times greater than the world average (Howard 1999).

WISCONSIN PRODUCTION

Understanding wood consumption in Wisconsin is difficult. Unlike the Nation as a whole, Wisconsin is a net exporter of wood products. Wood raw material is harvested within the state as well as imported from neighboring states and Canada. Many of the resulting products produced from this raw material are sold and consumed outside of Wisconsin. The most tangible figures available for Wisconsin focus on state forest products industry production.

Forests cover 46 percent of Wisconsin providing a strong base for its wood products industries (Schmidt 1997). The North Central Forest Experiment Station, USDA Forest Service, tracks wood production trends in Wisconsin (TPO 2000):

Wisconsin's roundwood production for 1996 was 435 million ft^3

- If this volume of wood were stacked end to end in cubic foot blocks, it could circle the earth's equator more than 3 times.
- Viewed another way, this volume of wood stacked end to end could stretch nearly 1/3 the way to the earth's moon.
- Industrial roundwood production accounts for the majority of the state's production at 359 million ft^3.

Total roundwood production within Wisconsin closely follows the national patterns described in Figure 3. Figure 4 shows the importance of industrial roundwood over fuelwood. Industrial roundwood is further broken down into five major consumption categories. Pulpwood-based products play a large role in Wisconsin, which is the number one paper producing state in the U.S. (WPC 2000). It is important to note that not all of this production volume is consumed in Wisconsin. Much of this production is traded in the national and world markets.

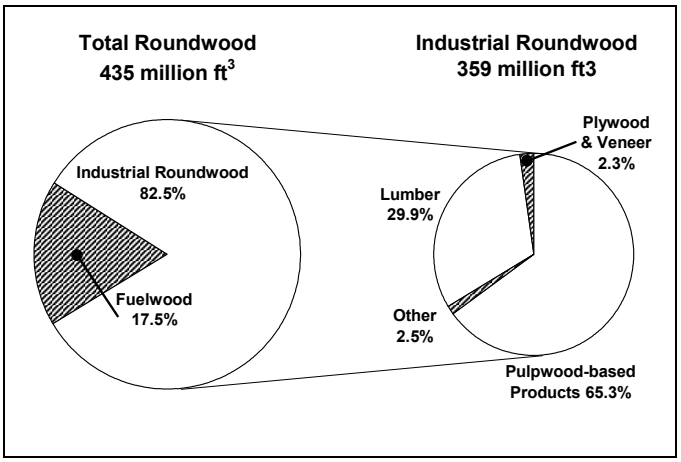

Figure 4: Wisconsin Roundwood Production (Source: TPO 2000)

SUMMARY

There are several points that deserve reiteration:

1. Globally, nationally, and as a state, we use a great deal of wood. We may not always see it, but it builds our homes, makes our paper, and enhances our lives.

2. In order to make informed decisions on forest management, forest sustainability, and forest conservation, we must understand how much we depend on wood. Wood is truly a renewable and natural raw material.

3. As a nation we consume 74.0 ft^3 of roundwood per person per year. This is over 3.5 times greater than the world average. Demand for wood in the United States and the world is continuing to grow.

If a person claims they don't use any wood and all tree harvesting should stop, it is clear that they do not appreciate how much we depend on wood. This dependence alone should be an incentive to wisely manage and utilize our renewable forest resources.

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